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1	US 7039372 B1	20060502	153	Method and system for frequency up-conversion with modulation embodiments	455/118	327/103; 375/350; 455/115.1
2	US 6091940 A	20000718	121	Method and system for frequency up-conversion	455/118	327/103; 375/350; 455/115.1
3	US 5960043 A	19990928	8	Signal receiver	375/316	375/350; 455/296
4	US 5105435 A	19920414	11	Method and apparatus for cancelling spread-spectrum noise	375/144	370/342; 375/254; 375/349; 375/350; 380/34; 455/284; 455/296; 455/305
5	US 4675880 A	19870623	10	Antimultipath communication by injecting tone into null in signal spectrum	375/261	332/145; 375/281; 375/298; 375/349; 375/350; 455/65

	Inventor
1	Sorrells; David F. et al.
2	Sorrells; David F. et al.
3	Lobo; Natividade Albert et al.
4	Stilwell; James H.
5	Davarian; Faramaz

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1	US 20060088136 A1	20060427	26	Complex filter circuit and receiver circuit	375/350	
2	US 20060072692 A1	20060406	17	Communication channel tracking apparatus	375/350	
3	US 20060072682 A1	20060406	25	Method and system for pre-equalization in a single weight (SW) single channel (SC) multiple-input multiple-output (MIMO) system	375/267	375/340; 375/350
4	US 20060029171 A1	20060209	19	Radio receiver and/or transmitter including a programmable equalizer	375/350	
5	US 20060029170 A1	20060209	27	Channel select filter and applications thereof	375/350	
6	US 20050286666 A1	20051229	13	Apparatus and method for estimating a doppler frequency and a moving velocity of a wireless terminal	375/350	
7	US 20050259726 A1	20051124	14	Adaptive receive-side equalization	375/232	375/350
8	US 20050157826 A1	20050721	14	Filtering signals	375/350	
9	US 20050152487 A1	20050714	14	Adaptive channel equalization technique and method for wideband passive digital receivers	375/350	
10	US 20050129156 A1	20050616	12	Time signal receiver and decoder	375/350	375/324
11	US 20050094753 A1	20050505	8	Method and device for setting a filter	375/350	
12	US 20050094752 A1	20050505	11	Pre-equalization for low-cost DTV translators	375/350	
13	US 20040264587 A1	20041230	17	Method for initialization of per tone frequency domain equalizer (FEQ) through noise reduction for multi-tone based modems	375/260	375/350

	Inventor
1	Morie; Takashi et al.
2	Gifford; Carl Steven et al.
3	Kent; Mark et al.
4	Jensen; Henrik T.
5	Jensen; Henrik T.
6	Ryu, Kil-Hyen
7	Farjad-rad, Ramin
8	Vaananen, Paavo
9	Reichard, Timothy D.
10	Loureens, Ruan et al.
11	Burger, Stefan
12	Frahm, Timothy V. et al.
13	Morejon, Israel et al.

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14	US 20040258184 A1	20041223	32	Equalization and decision-directed loops with trellis demodulation in high definition TV	375/350	
15	US 20040247062 A1	20041209	27	Method of differential-phase/absolute-amplitude QAM	375/350	375/261
16	US 20040240596 A1	20041202	11	Receiver architecture employing low intermediate frequency and complex filtering	375/350	
17	US 20040240588 A1	20041202	65	Compensation for non-linear distortion in a modem receiver	375/340	375/350
18	US 20040233886 A1	20041125	9	Adaptive filtering method and filter for filtering a radio signal in a mobile radio-communication system	370/348	375/350
19	US 20040218701 A1	20041104	7	Protocol agnostic method for adaptive equalization	375/350	
20	US 20040196936 A1	20041007	14	Switched capacitor filter and digital wireless receiver	375/350	
21	US 20040196897 A1	20041007	31	Technique for minimizing decision feedback equalizer wordlength in the presence of a DC component	375/233	375/340; 375/350
22	US 20040190661 A1	20040930	21	Method and system for equalizing communication signals	375/350	
23	US 20040190660 A1	20040930	16	Digital receiver and method	375/350	375/355
24	US 20040114697 A1	20040617	7	Estimating frequency offset	375/350	
25	US 20040096014 A1	20040520	10	Method and apparatus for processing an amplitude modulated (AM) signal	375/320	375/350
26	US 20040081257 A1	20040429	32	Phase detectors in carrier recovery for offset QAM and VSB	375/321	375/350

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14	Liu, Tian-Min et al.
15	Dimsdle, Jeffrey William
16	Liu, Bin
17	Miller, William J.
18	Dieterich, Hans et al.
19	Singh, Prashant et al.
20	Kawama, Shuichi et al.
21	Tan, Loke Kun et al.
22	Vrazel, Michael
23	Morris, Bradley John et al.
24	Young, Robert William
25	Hendrix, Jon et al.
26	Lin, Thuji S. et al.

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27	US 20040076247 A1	20040422	13	Peak-to-average power ratio modifier	375/350	
28	US 20040071244 A1	20040415	17	Method and apparatus for a programmable filter	375/350	708/300
29	US 20040057538 A1	20040325	12	Low-power code division multiple access receiver	375/350	
30	US 20030227985 A1	20031211	8	Interference reduction for simulcast signals	375/340	375/350
31	US 20030223488 A1	20031204	29	Fast phase synchronization and retrieval of sequence components in three-phase networks	375/232	375/350
32	US 20030179841 A1	20030925	26	Signal processing apparatus and signal processing method	375/350	
33	US 20030179840 A1	20030925	11	Apparatus and method for canceling narrow-band interference in a mobile communication system	375/350	375/346
34	US 20030161424 A1	20030828	23	Device, apparatus and method for receiving data transmissions having different data rates	375/350	375/354
35	US 20030156669 A1	20030821	6	Receiver circuit, in particular for a mobile radio	375/350	
36	US 20030142759 A1	20030731	22	Transmission system for reduction of amateur radio interference	375/298	375/261; 375/350
37	US 20030112905 A1	20030619	22	Global positioning system receiver capable of functioning in the presence of interference	375/350	
38	US 20030103589 A1	20030605	16	Apparatus and method for a digital, wideband, intercept and analysis processor for frequency hopping signals	375/350	
39	US 20030072363 A1	20030417	56	Adaptive equalization of digital modulating signal recovered from amplitude-modulated signal subject to multipath	375/232	375/350

	Inventor
27	Barak, Ilan Saul et al.
28	Shaeffer, Derek K.
29	Sathiavageeswaran, Karthik et al.
30	Schill, Dietmar et al.
31	Li, Chunlin et al.
32	Sekizawa, Toshiyuki
33	Oh, Jeong-Tae et al.
34	Varela, Julio Fernandez et al.
35	Hammes, Markus et al.
36	Anderson, Carl William et al.
37	Heinzl, Johann et al.
38	Nohara, Tim J. et al.
39	McDonald, James Douglas et al.

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40	US 20030058976 A1	20030327	42	Direct conversion radio receiving system using digital signal processing for channel filtering and down conversion to base band	375/350	455/324
41	US 20030016772 A1	20030123	13	Aliasing reduction using complex-exponential modulated filterbanks	375/350	708/300
42	US 20030007583 A1	20030109	16	Correction of multiple transmission impairments	375/350	375/229; 708/300
43	US 20020196860 A1	20021226	30	Orthogonal frequency division multiplex signal demodulator circuit having simple circuit configuration	375/260	375/350
44	US 20020136288 A1	20020926	22	Data adaptive ramp in a digital filter	375/232	375/240; 375/350
45	US 20020101944 A1	20020801	4	Process for digital message transmission, and a receiver	375/350	
46	US 20020085654 A1	20020704	11	Nonuniform oversampled filter banks for audio signal processing	375/350	
47	US 20020039383 A1	20020404	18	Methods and apparatus for reducing signal degradation	375/214	375/350
48	US 20020037060 A1	20020328	10	Digital down-converter and receiver	375/345	375/350
49	US 20020012411 A1	20020131	22	Global positioning system receiver capable of functioning in the presence of interference	375/350	
50	US 20010050966 A1	20011213	22	Signal transformation method and apparatus	375/350	
51	US 20010033341 A1	20011025	41	Ghost cancellation reference signals for broadcast digital television signal receivers and receivers for utilizing them	348/614	375/348; 375/350
52	US 20010031025 A1	20011018	24	Method and apparatus for selecting at least one desired channel utilizing a bank of vibrating micromechanical apparatus	375/349	375/350; 375/351

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40	Ohta, Gen-Ichiro et al.
41	Ekstrand, Per
42	Hilton, Howard E. et al.
43	Ohtaki, Yukio
44	McCarty, Robert J. JR.
45	Schabel, Stefan et al.
46	Cvetkovic, Zoran
47	Zhu, Junjie et al.
48	Kishi, Takahiko
49	Heinzl, Johann et al.
50	Signell, Svante et al.
51	Limberg, Allen Le Roy
52	Nguyen, Clark T.-C.

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53	US 20010026601 A1	20011004	6	Digital filter and reference signal cancelling device and method using the same	375/350	708/300
54	US 20010007582 A1	20010712	28	Data transmitting apparatus, automatic level adjustment method and activation control method	375/316	375/350
55	US 20010001008 A1	20010510	14	Transmitter/receiver for GMSK and Offset-QAM	375/271	375/350
56	US 7042939 B1	20060509	19	System for, and method of, processing quadrature amplitude modulated signals	375/235	375/261; 375/350; 375/371
57	US 7039372 B1	20060502	153	Method and system for frequency up-conversion with modulation embodiments	455/118	327/103; 375/350; 455/115.1
58	US 7035360 B2	20060425	11	Device and method for reducing the amplitude of signals	375/350	
59	US 7031886 B1	20060418	11	Methods and systems for detecting noise in a position sensor using minor shifts in sensing frequency	702/191	375/350; 702/189; 702/190
60	US 7027520 B2	20060411	11	Method and apparatus for simultaneously retrieving portions of a data stream from different channels	375/260	375/342; 375/349; 375/350
61	US 7027498 B2	20060411	21	Data adaptive ramp in a digital filter	375/232	341/166; 375/350; 708/300
62	US 7020448 B2	20060328	10	Method for detecting a tone signal through digital signal processing	455/213	375/350; 455/221
63	US 7020218 B2	20060328	42	Sliding-window transform with integrated windowing	375/316	375/350
64	US 7006474 B2	20060228	20	Channelized receiver system	370/334	375/316; 375/350
65	US 7006458 B1	20060228	15	Echo canceller disable for modulated data signals	370/290	375/350; 379/406.08

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53	Yamamoto, Yuji
54	Kaku, Takashi et al.
55	Dent, Paul W.
56	Samueli; Henry et al.
57	Sorrells; David F. et al.
58	Posti; Harri
59	Hargreaves; Kirk
60	Pugel; Michael Anthony
61	McCarty, Jr.; Robert J.
62	Hsieh; Chau-Kai
63	Arnesen; David M.
64	Oates; Edward Rumsey et al.
65	Lu; Youhong

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66	US 6985029 B2	20060110	7	Circuit configuration for tolerance correction in a frequency demodulator	329/315	329/318; 329/319; 329/320; 329/323; 375/324; 375/350; 455/266
67	US 6977976 B1	20051220	15	Complex filtering/AGC radio receiver architecture for low-IF or zero-IF	375/345	375/350; 455/234.1; 455/245.2; 455/296
68	US 6975846 B2	20051213	8	Method and circuit to reduce intermodulation distortion	455/295	375/346; 375/350; 455/307; 455/63.1; 455/67.13
69	US 6975674 B1	20051213	14	System and method for mixed mode equalization of signals	375/219	375/232; 375/345; 375/350; 455/136; 455/138; 455/232.1
70	US RE38876 E	20051115	27	System for, and method of, processing quadrature amplitude modulated signals	375/235	329/307; 375/261; 375/326; 375/344; 375/345; 375/350; 375/373

	Inventor
66	Wagner; Elmar et al.
67	Birkett; Neil et al.
68	Chang; Tsung Yuan et al.
69	Phanse; Abhijit M. et al.
70	Samueli; Henry et al.

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71	US 6954628 B2	20051011	16	Radio receiver	455/324	375/329; 375/334; 375/350; 455/552.1; 455/553.1; 455/556.1
72	US 6947509 B1	20050920	33	Oversampled filter bank for subband processing	375/350	708/300
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74	US 6933986 B2	20050823	22	Sharply tuned bandpass filter	348/732	348/21; 348/725; 348/726; 348/728; 348/731; 348/733; 348/735; 375/350
75	US 6922554 B2	20050726	8	Method for implementing a transceiver and a transceiver	455/307	375/278; 375/284; 375/350; 455/306; 455/84
76	US 6914950 B1	20050705	10	Multi-protocol receiver	375/347	375/349; 375/350; 455/132
77	US 6904110 B2	20050607	183	Channel equalization system and method	375/350	375/229

	Inventor
71	Minnis; Brian J. et al.
72	Wong; Douglas
73	Nohrden; James M. et al.
74	Plonka; Robert J.
75	Takalo; Tomi-Pekka et al.
76	Luneau; Louis
77	Trans; Francois et al.

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78	US 6901243 B2	20050531	14	Method and apparatus for mitigating adjacent channel interference in a wireless communication system	455/63.1	375/350; 455/278.1; 455/296; 455/307; 455/63.2
79	US 6856653 B1	20050215	18	Digital signal sub-band separating/combining apparatus achieving band-separation and band-combining filtering processing with reduced amount of group delay	375/285	375/349; 375/350; 379/3; 379/406.0 1
80	US 6847689 B1	20050125	13	Method for distinguishing signals from one another, and filter	375/350	375/285; 455/296; 455/570; 455/63.1
81	US 6842498 B2	20050111	22	Global positioning system interference detection	375/350	455/227; 455/278.1; 455/307; 455/63.1
82	US 6836511 B1	20041228	16	Apparatus for processing a reproduced digital signal	375/232	375/263; 375/350; 708/323
83	US 6807222 B1	20041019	16	Receiving spread spectrum signals with narrowband interference	375/147	375/350
84	US 6801583 B1	20041005	19	Multi-carrier receiver including an analog-to-digital converter for a wireless telecommunication system	375/316	375/341; 375/350
85	US 6760362 B2	20040706	14	Dynamic pilot filter bandwidth estimation	375/147	375/350
86	US 6751262 B1	20040615	11	Data transmission method	375/260	342/375; 375/316; 375/350

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78	Jayaraman; Srikant et al.
79	Taniguchi; Shohei et al.
80	Vuorinen; Olli et al.
81	Heinzl; Johann et al.
82	Marukawa; Shoji
83	Widdowson; Terence
84	Claxton; Shimen K. et al.
85	Patel; Shimman et al.
86	Tager; Wolfgang

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87	US 6741185 B2	20040525	22	Digital signal receiver for measurement while drilling system having noise cancellation	340/853.2	175/40; 175/48; 340/854.6; 367/83; 375/232; 375/346; 375/347; 375/350
88	US 6697438 B2	20040224	9	Circuit configuration for a multistandard communications terminal	375/316	375/350; 455/168.1
89	US 6690755 B1	20040210	12	Circuit for detecting digital signals, particularly for a system with an ASI field bus	375/350	327/558
90	US 6690662 B1	20040210	12	Method and apparatus employing wireless in-band signaling for downlink transmission of commands and uplink transmission of status for a wireless system repeater	370/342	375/214; 375/350; 455/11.1; 455/424; 455/561
91	US 6683919 B1	20040127	20	Method and apparatus for noise bandwidth reduction in wireless communication signal reception	375/316	375/285; 375/350; 455/296; 455/63.1
92	US 6678340 B1	20040113	11	Apparatus for receiving and processing a radio frequency signal	375/350	455/307; 455/310
93	US 6671340 B1	20031230	16	Method and apparatus for reduction of interference in FM in-band on-channel digital audio broadcasting receivers	375/350	370/487; 375/285; 375/346; 455/296
94	US 6658245 B2	20031202	11	Radio receiver having a dynamic bandwidth filter and method therefor	455/307	375/347; 375/349; 375/350; 455/200.1; 455/306; 455/339
95	US 6625113 B1	20030923	9	Digital signal frame and interleaver synchronizer	370/208	370/343; 375/260; 375/350

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87	Shi; Pengyu et al.
88	Doetsch; Markus et al.
89	Pulvirenti; Francesco et al.
90	Komara; Michael A. et al.
91	Olgaard; Christian Volf et al.
92	Khlat; Nadim et al.
93	Kroeger; Brian William et al.
94	Li; Junsong et al.
95	Cupo; Robert L. et al.

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96	US 6622008 B2	20030916	12	Method and apparatus for reduction of FM interference for FM in-band on-channel digital audio broadcasting system	455/61	375/346; 375/350; 455/143; 455/74
97	US 6603826 B1	20030805	14	Method and receiver for dynamically compensating for interference to a frequency division multiplex signal	375/346	370/333; 375/348; 375/350; 455/63.3
98	US 6598196 B1	20030722	9	Technique for correcting errors in position encoders	714/746	375/350
99	US 6593826 B2	20030715	14	Wireless phone system with voltage controlled oscillator	331/179	331/117R; 331/175; 331/177V; 331/36C; 375/296; 375/350; 455/261
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101	US 6560301 B1	20030506	107	Integrated frequency translation and selectivity with a variety of filter embodiments	375/350	375/328; 375/351
102	US 6556636 B1	20030429	10	Digital communication apparatus having level controller with a disturbance detection unit	375/350	375/230; 375/345; 375/346
103	US 6546061 B2	20030408	21	Signal transformation method and apparatus	375/316	375/350
104	US 6542561 B1	20030401	17	Information receiving device and method	375/350	348/21; 348/607; 348/624
105	US 6512803 B2	20030128	21	Global positioning system receiver capable of functioning in the presence of interference	375/350	455/227; 455/278.1; 455/296; 455/307; 455/63.2

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96	Kroeger; Brian William et al.
97	Cupo; Robert Louis et al.
98	Bussard; Paul E. et al.
99	See; Puay Hoe
100	Nease; Greg Alan
101	Cook; Robert W. et al.
102	Takagi; Kotaro
103	Signell; Svante et al.
104	Yanagi; Shigeto
105	Heinzl; Johann et al.

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106	US 6459743 B1	20021001	16	Digital reception with radio frequency sampling	375/329	329/310; 375/316; 375/350
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109	US 6438366 B1	20020820	20	Method and circuit for sampling a signal at high sampling frequency	455/334	330/258; 330/259; 375/350; 455/295; 455/296
110	US 6438156 B1	20020820	7	Stepwise adaptive finite impulse response filter for spread spectrum radio	375/148	375/233; 375/350
111	US 6429797 B1	20020806	6	Decimation filter for a bandpass delta-sigma ADC	341/143	341/155; 375/350
112	US 6426979 B1	20020730	21	Adaptation control algorithm for echo cancellation using signal-value based analysis	375/285	370/291; 375/350; 379/406.01
113	US 6426780 B1	20020730	21	DTV receiver with low-band final I-F signal filtered for suppressing co-channel interfering NTSC audio carrier	348/725	348/21; 348/470; 348/607; 348/735; 348/736; 348/738; 375/277; 375/285; 375/346; 375/348; 375/349; 375/350; 455/286; 455/307; 455/315

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106	Lipka; Dietmar
107	Hayward; Stephen D.
108	O'Dell; Stewart C. et al.
109	Lindfors; Saska et al.
110	Ghobrial; Ayman K. et al.
111	Wu; Miaochen
112	Yang; Xun et al.
113	Limberg; Allen LeRoy et al.

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116	US 6385262 B1	20020507	14	Method and apparatus for changing the channel bandwidth that is receivable in a radio receiver	375/350	375/327; 375/332; 375/347; 455/143; 455/150.1
117	US 6384858 B1	20020507	29	Suppression of co-channel NTSC interference artifacts when extracting training signal for a DTV receiver equalizer	348/21	348/607; 375/346; 375/350
118	US 6380969 B1	20020430	25	DTV receiver symbol decoding circuitry with co-channel NTSC artifacts suppression filter before data slicer	348/21	348/614; 375/348; 375/350
119	US 6370205 B1	20020409	11	Method and apparatus for performing DC-offset compensation in a radio receiver	375/319	329/320; 370/527; 370/529; 375/342; 375/346; 375/350; 455/304; 455/305
120	US 6366627 B1	20020402	11	Compressive receiver with frequency expansion	375/350	375/130; 455/303; 455/307; 455/308
121	US 6360369 B1	20020319	14	Interference tolerant modem	725/111	375/232; 375/350; 725/125

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114	Reber; Martin
115	Nohrden; James M. et al.
116	Gustafsson; Kjell B. et al.
117	Limberg; Allen LeRoy
118	Limberg; Allen LeRoy
119	Lindoff; Bengt et al.
120	Apostolos; John T. et al.
121	Mahoney; Paul F.

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122	US RE37569 E	20020305	13	High-speed modem synchronized to a remote codec	375/222	341/144; 341/145; 370/252; 370/292; 370/507; 370/516; 375/229; 375/285; 375/350; 375/354; 375/356; 379/93.26
123	US 6332083 B1	20011218	15	Apparatus and associated method, for operating on receive signals received at a receiver	455/552.1	375/350; 455/131; 455/339; 455/553.1
124	US 6320903 B1	20011120	34	Multi-carrier transmission systems	375/232	375/260; 375/350
125	US 6313882 B1	20011106	18	TV reception apparatus using same ghost-cancellation circuitry for receiving different types of TV signals	348/614	375/350
126	US 6307903 B1	20011023	33	Low pass digital filter implemented in a modem of a television system	375/350	708/322
127	US 6307897 B1	20011023	66	Radio receiving apparatus for receiving communication signals of different bandwidths	375/316	375/350
128	US 6307879 B1	20011023	28	Digital radio communication apparatus and method of controlling the same	375/219	375/224; 375/344; 375/345; 375/350
129	US 6300984 B1	20011009	24	Ghost-cancellation reference signals using spaced PN sequences	348/614	348/608; 375/348; 375/350

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122	Ayanoglu; Ender et al.
123	Shi; Zhongming et al.
124	Isaksson; Mikael et al.
125	Limberg; Allen LeRoy et al.
126	Harris; Fred et al.
127	Ohta; Gen-ichiro et al.
128	Moriyama; Yukihiro
129	Limberg; Allen LeRoy et al.

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130	US 6289063 B1	20010911	11	QAM receiver with improved immunity to crosstalk noise	375/348	329/309; 375/229; 375/232; 375/233; 375/261; 375/332; 375/350
131	US 6263195 B1	20010717	24	Wideband parallel processing digital tuner	455/150.1	375/347; 375/350; 455/339
132	US 6259893 B1	20010710	12	Method and apparatus for reduction of FM interference for FM in-band on-channel digital audio broadcasting system	455/61	375/346; 375/350; 455/143; 455/74
133	US 6243430 B1	20010605	21	Noise cancellation circuit in a quadrature downconverter	375/346	375/350; 455/296
134	US 6240150 B1	20010529	13	Method and apparatus for filtering interference in a modem receiver	375/350	375/222; 375/261
135	US 6219376 B1	20010417	51	Apparatuses and methods of suppressing a narrow-band interference with a compensator and adjustment loops	375/148	375/285; 375/346; 375/350; 455/296; 455/306
136	US 6215828 B1	20010410	21	Signal transformation method and apparatus	375/316	375/350
137	US 6195383 B1	20010227	13	Digital signal processing apparatus for frequency de-hopping	375/136	375/350
138	US 6148048 A	20001114	34	Receive path implementation for an intermediate frequency transceiver	375/350	341/139; 375/345; 455/234.1
139	US 6141372 A	20001031	33	Digital downconverter/despread for direct sequence spread spectrum CDMA communications system	375/147	375/150; 375/350
140	US 6134282 A	20001017	14	Method for lowpass filter calibration in a satellite receiver	375/350	455/266
141	US 6111920 A	20000829	9	Method and system for timing recovery in a baud-rate sampled data stream	375/326	375/349; 375/350; 375/355

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130	Duxbury; Guy M. A. F.
131	Niu; Edward L. et al.
132	Kroeger; Brian William et al.
133	Mathe; Lennart Karl-Axel
134	Darveau; Michel et al.
135	Zhodzishsky; Mark I. et al.
136	Signell; Svante et al.
137	Wishart; Alexander Walker et al.
138	Kerth; Donald A. et al.
139	Chalmers; Harvey
140	Ben-Efraim; Nadav et al.
141	Alelyunas; Carl H. et al.

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142	US 6094464 A	20000725	19	Burst mode receiver	375/342	375/350; 375/364; 375/368
143	US 6091940 A	20000718	121	Method and system for frequency up-conversion	455/118	327/103; 375/350; 455/115.1
144	US 6088388 A	20000711	9	Digital fir filters for compensation of nyquist slope in pseudo-synchronous demodulators	375/229	348/725; 375/350
145	US 6049562 A	20000411	13	Multi-branch frequency-hopping receiver	375/136	375/349; 375/350
146	US 6026128 A	20000215	17	Frequency- and phase regulator device for VSB receivers	375/321	348/536; 348/607; 348/735; 375/326; 375/327; 375/344; 375/350
147	US 6005900 A	19991221	9	Wideband channelization using subsampled discrete fourier transforms	375/350	370/210; 375/316; 708/405
148	US 6002297 A	19991214	7	Digital filter	327/556	327/47; 327/552; 375/350; 708/319
149	US 5999575 A	19991207	49	Channel separating filter apparatus, PSK demodulator apparatus and PSK receiver apparatus each equipped with channel separating filter apparatus	375/329	370/497; 375/350
150	US 5999574 A	19991207	26	Digital filter system, carrier reproduction circuit using the digital filter system, and demodulation circuit using the carrier reproduction circuit	375/326	375/349; 375/350; 455/303; 455/307; 455/311
151	US 5999573 A	19991207	8	Wideband channelization with variable sampling frequency	375/316	370/210; 375/350; 708/405
152	US 5995565 A	19991130	15	Co-channel interference reduction	375/346	375/350; 455/296; 702/191

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142	Ebringer; Lawrence et al.
143	Sorrells; David F. et al.
144	Slavin; Keith R.
145	Dekker; Andre
146	Goeckler; Heinz et al.
147	Zangi; Kambiz C.
148	Scheelen; Jos
149	Tanaka; Ryohei et al.
150	Sun; Weimin et al.
151	Zangi; Kambiz C.
152	Tong; Wen et al.

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153	US 5995542 A	19991130	11	Filter circuit arrangement having a plurality of cascaded FIR filters	375/229	375/233; 375/350; 708/313; 708/322
154	US 5974101 A	19991026	76	Spread spectrum modulation communication apparatus for narrow band interference elimination	375/350	375/148; 375/349; 455/307
155	US 5960043 A	19990928	8	Signal receiver	375/316	375/350; 455/296
156	US 5933467 A	19990803	15	Multirate receive device and method using a single adaptive interpolation filter	375/350	375/346
157	US 5926513 A	19990720	21	Receiver with analog and digital channel selectivity	375/346	375/350
158	US 5926455 A	19990720	17	Recursive filters for polyphase structures	370/210	375/350; 708/300; 708/320; 708/403
159	US 5923454 A	19990713	9	Modem method and device for indicating received signal strength and presence for intensity modulated binary-coded wireless data packets with reduced recovery time	398/202	375/350; 398/1; 398/186; 455/226.2
160	US 5877971 A	19990302	8	Digital signal processing	708/305	333/166; 375/350
161	US 5870402 A	19990209	10	Multiple user digital receiver apparatus and method with time division multiplexing	370/497	370/478; 370/488; 375/350
162	US 5852477 A	19981222	16	Digital TV receivers with poly-phase analog-to-digital conversion of baseband symbol coding	348/725	348/21; 375/350
163	US 5848108 A	19981208	9	Selective filtering for co-channel interference reduction	375/350	370/210; 375/346; 702/190
164	US 5841822 A	19981124	16	Band-pass sigma-delta converter and commutating filter therefor	375/350	327/554; 333/172; 333/173; 341/172
165	US 5841811 A	19981124	15	Quadrature sampling system and hybrid equalizer	375/235	375/340; 375/350

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153	Goeckler; Heinz
154	Nago; Hidetada
155	Lobo; Natividade Albert et al.
156	Sehier; Philippe et al.
157	Suominen; Edwin A. et al.
158	Allpress; Stephen A.
159	Eastmond; Bruce C. et al.
160	Eastty; Peter Charles et al.
161	Kelley; Edwin A.
162	Limberg; Allen L.R.
163	Tong; Wen et al.
164	Mittel; James Gregory et al.
165	Song; William S.

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166	US 5828657 A	19981027	10	Half-duplex echo canceler training using a pilot signal	370/289	370/269; 370/290; 370/292; 375/222; 375/231; 375/350; 379/406.05; 379/406.1
167	US 5825753 A	19981020	8	Echo canceler gain tracker for cellular modems	370/289	370/269; 370/290; 370/292; 375/222; 375/229; 375/350
168	US 5812608 A	19980922	7	Method and circuit arrangement for processing received signal	375/331	348/538; 348/555; 375/349; 375/350; 708/301; 708/313; 708/319; 708/322
169	US 5787125 A	19980728	9	Apparatus for deriving in-phase and quadrature-phase baseband signals from a communication signal	375/329	375/316; 375/350
170	US 5774512 A	19980630	6	Higher order digital phase loop filter	375/376	327/156; 375/350
171	US 5774509 A	19980630	12	Method for the reduction of phase noise introduced by the SDH network (Synchronous Digital Hierarchy Network) by pointer justification and integrated circuits for the implementation of the method	375/371	370/516; 375/350; 375/376
172	US 5757867 A	19980526	7	Digital mixing to baseband decimation filter	375/350	341/143; 375/254; 708/313
173	US 5754601 A	19980519	6	Jitter circuit for reduced switching noise	375/350	329/320

	Inventor
166	Betts; William Lewis et al.
167	Betts; William Lewis et al.
168	Valimaki; Vesa et al.
169	Mittel; James Gregory
170	Bhatt; Bhavesh Bhalchandra
171	Frigerio; Silvano et al.
172	Caulfield; Robert W. et al.
173	Horng; Bor-Rong et al.

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174	US 5732107 A	19980324	26	Fir interpolator with zero order hold and fir-spline interpolation combination	375/296	375/229; 375/350; 708/313; 708/319
175	US 5721756 A	19980224	10	Digital receiver with tunable analog parameters and method therefor	375/344	375/350
176	US 5712808 A	19980127	8	Digital signal processing	708/305	333/166; 375/350
177	US 5692020 A	19971125	69	Signal processing apparatus and method	375/350	708/313
178	US 5689529 A	19971118	51	Communications method and apparatus for digital information	375/259	370/442; 370/522; 375/260; 375/295; 375/350; 455/59
179	US 5684830 A	19971104	46	Noise removing device and data communication apparatus using the same	375/254	375/285; 375/350; 455/296
180	US 5677932 A	19971014	11	Baseband estimator for estimating the amplitude/frequency characteristic of a multiphase signal	375/235	375/345; 375/350; 708/319; 708/323
181	US 5659581 A	19970819	7	Modem receiver pre-emphasis	375/296	370/286; 370/289; 370/290; 375/229; 375/346; 375/348; 375/350; 379/406.08; 379/406.12
182	US 5646964 A	19970708	20	DS/CDMA receiver for high-speed fading environment	375/346	370/342; 375/232; 375/349; 375/350; 455/506; 455/65

	Inventor
174	Phillips; William C. et al.
175	Liebetreu; John Michael et al.
176	Eastty; Peter Charles et al.
177	Robbins; William P.
178	Johnson; Neldon P.
179	Ichikawa; Yuji et al.
180	Comte; Michel et al.
181	Betts; William Lewis et al.
182	Ushirokawa; Akihisa et al.

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183	US 5640416 A	19970617	29	Digital downconverter/despread for direct sequence spread spectrum communications system	375/147	375/149; 375/350; 375/371
184	US 5621730 A	19970415	9	Multiple user digital receiver apparatus and method with time division multiplexing	370/345	370/478; 370/484; 375/350
185	US 5619536 A	19970408	6	Digital superheterodyne receiver and baseband filter method used therein	375/316	341/143; 375/247; 375/350
186	US 5612975 A	19970318	21	Digital receiver for variable data rate communications	375/319	329/308; 341/61; 375/235; 375/327; 375/343; 375/349; 375/350; 455/307; 455/337; 708/314
187	US 5608390 A	19970304	16	Synchronous telemetry channel	340/870.01	178/20.02; 340/870.02; 340/870.1; 375/350; 455/206; 455/306
188	US 5606579 A	19970225	35	Digital VSB detector with final IF carrier at submultiple of symbol rate, as for HDTV receiver	375/321	348/725; 375/332; 375/350; 375/355
189	US 5596609 A	19970121	15	Parallel cascaded integrator-comb filter	375/350	701/50; 708/313; 708/823

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183	Chalmers; Harvey
184	Kelley; Edwin A.
185	Gourgue; Frederic
186	Becker; Donald W. et al.
187	Gasparik; Frank
188	Patel; Chandrakant B. et al.
189	Genrich; Thad J. et al.

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190	US 5557642 A	19960917	9	Direct conversion receiver for multiple protocols	375/316	341/143; 375/324; 375/350; 455/323; 455/339; 455/340; 708/307
191	US 5544199 A	19960806	15	Non-adaptive phase-difference interference filter	375/285	375/346; 375/350; 708/300
192	US 5509033 A	19960416	17	Quadrature overlapping modulation system	375/298	332/103; 375/261; 375/350; 708/315
193	US 5504785 A	19960402	11	Digital receiver for variable symbol rate communications	375/344	375/350; 375/364
194	US 5500874 A	19960319	34	Digital filtering, data rate conversion and modem design	375/232	375/350; 708/313
195	US 5491725 A	19960213	39	Tracking filter and quadrature-phase reference generator	375/324	327/553; 348/618; 375/326; 375/344; 375/350; 708/322
196	US 5469465 A	19951121	12	Method and apparatus for mitigating distortion effects in the determination of signal usability	375/346	375/347; 375/348; 375/350
197	US 5418821 A	19950523	5	Method and apparatus for sample-data receiver squelch	375/351	327/172; 327/31; 375/350; 455/213
198	US 5406588 A	19950411	11	Method and apparatus for mitigating distortion effects in the determination of signal usability	375/346	375/347; 375/348; 375/350
199	US 5396520 A	19950307	11	Digital RF receiver	375/316	375/345; 375/350
200	US 5375146 A	19941220	33	Digital frequency conversion and tuning scheme for microwave radio receivers and transmitters	375/350	375/344; 708/313

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190	Williams; Tim A.
191	Bond; James W.
192	Chen; Xiao H.
193	Becker; Donald W. et al.
194	Terrell; Peter M.
195	White; Stanley A.
196	Birchler; Mark A. et al.
197	Tran; Toan V.
198	Birchler; Mark A. et al.
199	Degges; Andrew M.
200	Chalmers; Harvey

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201	US 5323391 A	19940621	19	Multi-channel digital transmitter and receiver	370/210	370/335; 370/344; 370/347; 370/484; 370/497; 375/349; 375/350; 455/307; 708/313; 708/316
202	US 5309482 A	19940503	10	Receiver having an adjustable matched filter	375/350	333/18; 375/232; 375/343; 375/354; 708/323
203	US 5285481 A	19940208	7	Receiver circuit with smart squelch	375/350	327/26; 327/31; 327/44; 327/551; 375/217; 375/289; 375/351
204	US 5263055 A	19931116	7	Apparatus and method for reducing harmonic interference generated by a clock signal	375/346	375/350; 455/317
205	US 5222106 A	19930622	20	Interference detection and reduction	375/349	327/100; 375/350; 455/207; 455/209; 455/303; 455/306; 455/340
206	US 5105435 A	19920414	11	Method and apparatus for cancelling spread-spectrum noise	375/144	370/342; 375/254; 375/349; 375/350; 380/34; 455/284; 455/296; 455/305

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201	Harrison; Robert M.
202	Wright; Andrew S. et al.
203	Van Tran; Toan
204	Cahill; Stephen V.
205	Satoh; Gunkichi et al.
206	Stilwell; James H.

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207	US 5029187 A	19910702	6	Digital correlation receiver	375/343	375/350
208	US 5023940 A	19910611	8	Low-power DSP squelch	455/212	375/350; 455/222; 455/337; 455/343.1
209	US 5012490 A	19910430	11	Varying bandwidth digital signal detector	375/285	327/39; 375/350; 455/340
210	US 5006989 A	19910409	21	Digital vital rate decoder	701/20	246/182C; 246/182R; 375/350; 701/70
211	US 4953184 A	19900828	6	Complex bandpass digital filter	375/350	708/313
212	US 4847880 A	19890711	16	Multipoint modem system having fast synchronization	375/222	375/350; 708/313
213	US 4743871 A	19880510	5	Adaptive filter	333/166	333/12; 333/17.1; 333/174; 375/350; 708/319
214	US 4736392 A	19880405	9	Demodulator for digital FM signals	375/324	333/18; 375/350; 708/319
215	US 4706263 A	19871110	34	Data communications receiver operable in highly stressed environments	375/343	375/350; 375/376
216	US 4675880 A	19870623	10	Antimultipath communication by injecting tone into null in signal spectrum	375/261	332/145; 375/281; 375/298; 375/349; 375/350; 455/65

	Inventor
207	Leitch; Clifford D.
208	Johnson; Mark J. et al.
209	Myer; Robert E.
210	Parker; John W.
211	Simone; Daniel A.
212	Kamerman; Adriaan et al.
213	Searle; Jeffrey Graham
214	Kammeyer; Karl-Dirk et al.
215	von der Embse; U. A.
216	Davarian; Faramaz

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217	US 4672633 A	19870609	26	Data transmission system	375/285	375/263; 375/290; 375/296; 375/348; 375/350
218	US 4660216 A	19870421	24	Transmission system for the transmission of data signals in a modulation band	375/285	333/20; 375/263; 375/290; 375/296; 375/348; 375/350; 708/319
219	US 4646173 A	19870224	55	Converting and decoding receiver for digital data recorded in analog form on magnetic tape	360/51	360/32; 375/350; 375/371
220	US 4646153 A	19870224	17	Noise reduction circuit for a video signal	348/619	348/607; 375/350; 455/307
221	US 4627079 A	19861202	34	Method and apparatus for acquiring and tracking a communications signal	375/343	324/76.21; 324/76.29; 324/76.31; 375/345; 375/350; 702/77; 708/314
222	US 4563681 A	19860107	6	Tone receiver for digital data communication systems	340/825.71	375/350; 702/74; 708/312
223	US 4519084 A	19850521	10	Matched filter for combating multipath fading	375/232	333/18; 375/350; 708/314; 708/819

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217	Claasen; Theodoor A. C. M. et al.
218	Claasen; Theodoor A. C. M. et al.
219	Kammeyer; Karl- Dirk et al.
220	Fukuda; Hisatoshi et al.
221	von der Embse; Urban A.
222	Godard; Dominique
223	Langseth; Rollin E.

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224	US 4485448 A	19841127	9	Apparatus and method for detecting the onset of a frequency shift keyed signal	702/70	324/76.68; 324/76.72; 327/18; 329/300; 329/336; 375/324; 375/334; 375/350
225	US 4472810 A	19840918	7	Charge-transfer modulator-demodulator	375/222	333/165; 375/344; 375/350
226	US 4468794 A	19840828	9	Digital coherent detector	375/350	708/310
227	US 4455663 A	19840619	17	Full duplex modems and synchronizing methods and apparatus therefor	375/345	375/222; 375/260; 375/339; 375/350; 375/354; 379/93.31
228	US 4442500 A	19840410	7	Narrow band digital filter	708/312	327/557; 375/350
229	US 4435773 A	19840306	5	Receiver for effecting synchronous demodulation	708/319	375/232; 375/350; 708/313
230	US 4320523 A	19820316	11	Digital signal reception system	375/350	455/307
231	US 4298985 A	19811103	47	Digital filter bank detector	375/328	375/334; 375/343; 375/350; 702/197; 702/77
232	US 4259740 A	19810331	26	Sequential detection system	375/346	370/465; 375/350; 375/376; 455/161.3; 455/266

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224	Kurth; Richard R.
225	Picquendar; Jean-Edgar
226	Waters; William M. et al.
227	Ragsdale; Robert G.
228	Kongable; Lowell S. et al.
229	Gockler; Heinz et al.
230	Horikawa; Izumi et al.
231	Ballard; Arthur H. et al.
232	Snell; James L. et al.

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233	US 4130806 A	19781219	6	Filter and demodulation arrangement	375/350	329/306; 329/358; 455/307
234	US 4088833 A	19780509	10	Carrier detector	375/343	375/349; 375/350
235	US 4066878 A	19780103	15	Time-domain filter for recursive type signals	708/301	327/44; 375/229; 375/350; 708/426
236	US RE29257 E	19770607	5	Digital filter for a digital demodulation receiver	375/334	375/350
237	US 3988607 A	19761026	13	Interpolating digital filter	708/313	327/552; 375/350
238	US 3988606 A	19761026	19	Digital filter device for processing binary-coded signal samples	708/307	327/552; 375/350; 708/300
239	US 3944932 A	19760316	7	Receiver filtering out both systematic pulse noise and random noise	375/350	455/307
240	US 3938052 A	19760210	23	Digital demodulator for phase-modulated waveforms	329/310	327/12; 327/7; 375/328; 375/331; 375/350
241	US 3879665 A	19750422	5	Digital frequency-shift keying receiver	375/328	329/303; 375/346; 375/350
242	US 3814918 A	19740604	5	DIGITAL FILTER FOR A DIGITAL DEMODULATION RECEIVER	375/334	375/350
243	US 3783397 A	19740101	10	SELECTION AND PROCESSING SYSTEM FOR SIGNALS, INCLUDING FREQUENCY DISCRIMINATOR	327/47	327/552; 342/388; 375/349; 375/350
244	US 3781688 A	19731225	5	CIRCUIT FOR IMPROVING RF PULSE RECEPTION FREQUENCY RESOLUTION WITHOUT RISE-TIME DEGRADATION	375/343	375/350
245	US 3746994 A	19730717	8	APPARATUS FOR DETERMINING THE VALIDITY OF DATA RECEIVED BY DATA	375/328	375/327; 375/346; 375/350

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233	Van Gerwen; Petrus J. et al.
234	Godard; Dominique N. et al.
235	Miller; Raymond M. et al.
236	Nash; Harold G. et al.
237	Eggermont; Ludwig Desire Johan et al.
238	Eggermont; Ludwig Desire Johan
239	Fong; Kouan
240	Glasson; Jerry M. et al.
241	Carlow; Earl Fred et al.
242	Nash; Harold Garth et al.
243	Dishal; Milton et al.
244	Rannells; David C.
245	Kramer; Melvin G.

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246	US 3701023 A	19721024	8	PHASE JITTER EXTRACTION METHOD FOR DATA TRANSMISSION SYSTEMS	375/326	375/350; 375/371
247	US 3689844 A	19720905	12	DIGITAL FILTER RECEIVER FOR FREQUENCY-SHIFT DATA SIGNALS	375/328	329/303; 375/340; 375/350; 708/316
248	US 3614639 A	19711019	8	FSK DIGITAL DEMODULATOR WITH MAJORITY DECISION FILTERING	329/300	375/324; 375/337; 375/350
249	US 3585532 A	19710615	8	CONTIGUOUS FILTER BANK USING SHARED RESONATORS	333/101	327/39; 333/189; 342/192; 375/350
250	US 3571712 A	19710323	9	DIGITAL FSK/PSK DETECTOR	375/328	329/302; 329/306; 375/343; 375/350
251	JP 06046012 A	19940218	6	CN RATIO DETECTING CIRCUIT		375/350; 455/226.3
252	JP 01183246 A	19890721	4	SIGNAL DETECTION CIRCUIT		375/350

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246	Fang; Yang
247	Clair A. Buzzard et al.
248	Belman; Harris J.
249	Ruggles; Norman A. et al.
250	Hellwarth; George A. et al.
251	CHIHARA, TAKAHIRO et al.
252	FUJIOKA, SHIGERU